IN THE CLAIMS

No amendments are made to the claims, which are reproduced below for the Examiner's convenience:

1. (ORIGINAL) A compact personal token, comprising:

a USB-compliant interface releaseably coupleable to a host processing device operating under command of an operating system;

a smartcard processor having a smartcard processor-compliant interface for communicating according to a smartcard input and output protocol;

an interface processor, communicatively coupled to the USB-compliant interface and to smartcard processor-compliant interface the interface processor implementing a translation module for interpreting USB-compliant messages into smartcard processor-compliant messages and for interpreting smartcard processor-compliant messages into USB-compliant messages.

2. (ORIGINAL) The apparatus of claim 1, wherein the interface processor emulates a smartcard reader to the smartcard processor.

3. (ORIGINAL) The apparatus of claim 1, wherein:

the host processing device comprises a virtual smartcard reader in communication with the operating system, the virtual smartcard reader for emulating a smartcard reader communicatively coupled to the host processing device and including a communication module for packaging messages for transmission to the personal token via the USB compliant interface according to a first protocol and for unpackaging messages received from the personal token via the USB-compliant interface according to the first protocol; and

the interface processor translation module unpackages messages from the host processing device according to the first protocol and packages messages destined for the host processing device according to the first protocol.

4. (ORIGINAL) The apparatus of claim 3, wherein the virtual smartcard reader further comprises a bootup module for responding to an operating system bootup procedure with an indication that a smartcard reader is communicatively coupled to the host processor.

5. (ORIGINAL) The apparatus of claim 3, wherein the virtual smartcard reader further comprises an answer-to-reset (ATR) module for providing an ATR message to the operating system in response to a reset message.

6. (ORIGINAL) The apparatus of claim 3, wherein the virtual smartcard reader further comprises a reporting module for receiving and reporting the insertion of the personal token in a USB-compliant port communicatively coupled to the host processor and the removal of the personal token as a removal of a smartcard from a smartcard reader.

7. (ORIGINAL) The apparatus of claim 3, wherein the virtual smartcard reader further comprises a protocol selection module for receiving a protocol type selection (PTS) command from the operating system and providing a PTS response message to the operating system.

8. (PREVIOUSLY PRESENTED) A host processing device, comprising:

a processor;

a memory, communicatively coupled to the processor, the memory storing processor operation commands implementing an operating system; and

a virtual smartcard reader module stored in the memory and in communication with the operating system, for emulating at least one smartcard reader to the operating system, the virtual smartcard reader module comprising a communication module for packaging smartcard-compliant commands for transmission to a personal token communicatively coupled to the host processor via a USB-compliant interface and for unpacking smartcard-compliant responses received from the personal token.

9. (CANCELED)

10. (ORIGINAL) The apparatus of claim 8, wherein the virtual smartcard reader comprises a bootup module for responding to an operating system bootup procedure with an indication that a smartcard reader is communicatively coupled to the host processor.

11. (ORIGINAL) The apparatus of claim 8, further comprising an answer-to-reset (ATR) module providing an ATR message to the operating system in response to a reset message.

12. (ORIGINAL) The apparatus of claim 8, wherein the virtual smartcard reader further comprises a reporting module for receiving and reporting the insertion of a personal token in a USB compliant port communicatively coupled to the host processor and the removal of the personal token as a removal of a smartcard from a smartcard reader.

13. (ORIGINAL) The apparatus of claim 8, wherein the virtual smartcard reader further comprises a protocol selection module for receiving a protocol type selection (PTS) command from the operating system and providing a PTS response message to the operating system.

14. (ORIGINAL) A method of communicating with a smartcard processor in a personal key communicatively coupled to a host computer via a USB-compliant interface, comprising the steps of:

accepting a message comprising a smartcard reader command selected from a smartcard reader command set from a host computer operating system in a virtual smartcard reader;

packaging the message for transmission via a USB-compliant interface according to a first message transfer protocol;

transmitting the packaged message to a personal key communicatively coupled to the USB-compliant interface;

receiving the packaged message in the personal key;

unpackaging the message in the personal key to recover the smartcard reader command;

translating the smartcard reader command into a smartcard command within the personal key; and

providing the smartcard command to the smartcard processor.

15. (ORIGINAL) The method of claim 14, further comprising the steps of:

accepting a smartcard response from the smartcard processor;

translating the smartcard response into a smartcard reader response;

packaging the smartcard reader response for transmission to the host processor via the USB-compliant interface;

transmitting the packaged message from the personal key to the host processor;

receiving the packaged message in the host computer;

unpackaging the smartcard reader response; and

providing the smartcard reader response to the host processor operating system.

16. (ORIGINAL) The method of claim 14, further comprising the steps of:

accepting a startup query from the host computer operating system in the virtual smartcard reader; and

providing an indication that a smartcard reader is communicatively coupled to the host computer to the host computer operating system.

17. (ORIGINAL) The method of claim 16, further comprising the steps of:

receiving an indication that the personal key has been communicatively coupled to the USB-compliant interface;

reporting the indication that the personal key is communicatively coupled to the USB-compliant interface to the host processor operating system as the insertion of a smartcard;

receiving an indication that the personal key has been communicatively decoupled from the USB-compliant interface; and

reporting the indication that the personal key has been communicatively decoupled from the USB-compliant interface to the host processor operating system as the removal of the smartcard.

18. (ORIGINAL) The method of claim 14, further comprising the steps of:

receiving a protocol type selection (PTS) command from the host computer operating system; and

providing a PTS response message to the operating system.

19. (ORIGINAL) A virtual smartcard reader emulator system, comprising:

a first smartcard reader emulator, implemented in a host computer for emulating smartcard reader operations to the host computer; and

a second smartcard reader emulator, implemented in a personal key, for emulating smartcard reader operations to a smartcard-interface compliant personal key processor.